Statement of
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Before the

AVIATION SUBCOMMITTEE
Committee on Transportation and Infrastructure
U.S. House of Representatives

Hearing on

NextGen: Long-Term Planning and Interagency Cooperation

Wednesday, April 21, 2010

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The Impact of Environmental Review Processes on NextGen Implementation

Mr. Chairman, Members of the Committee, I am Lorraine Bolsinger, President and CEO of GE Aviation Systems. Thank you for providing us this opportunity to present our views and observations to the Subcommittee today. In 2005, I was privileged to lead the development of GE's ecomagination initiative, which has as a core concept the notion that we can continue to grow our economy and be profitable, while solving the world's most challenging environmental problems. I mention this because elements of these principles are evident in the FAA's NextGen airspace modernization effort.

Transforming our air transportation system has proven potential to reduce carbon emissions that threaten our planet. Airspace modernization efforts, like NextGen, lessen our dependence on foreign oil that threatens our nation's security and help control rising energy costs that threaten our wallets and impact the U.S. job market. For those reasons, today's hearing, on the long term planning for NextGen is important and timely.

We've come to a critical juncture with NextGen. We are on the brink of implementing new technologies and airspace procedures that will capture the benefits I just described. However, we need Congress to recognize that all the planning for this critical program and the decades of work that have brought us to this point, will be pointless if we can't find a way to solve the problem I will outline today.

GE fully supports NextGen. This program is critical to achieving necessary improvements in reliability, efficiency and sustainability in our National Airspace. In the near term, Performance-based Navigation lays a foundation for the FAA's vision of minimizing delays, maximizing runway utilization, increasing airport and airspace capacity and reducing the environmental impact of aviation. But when it comes to the environment, we now face a situation where environmental process trumps environmental progress, placing the entire NextGen program at risk.

On this day, on the eve of Earth Day, it's appropriate that we candidly address our mutual interest in preserving aviation leadership in the United States while protecting and improving our shared and precious environment. Forty years ago, Congress passed, and President Richard Nixon signed, the National Environmental Policy Act, a landmark piece of legislation with a core premise that we must think, before we act. The law requires us to study the consequences of our human activities and to

weigh our actions against the impact they have on the air we breathe, the water we drink and the quality of life we all enjoy and wish to preserve.

Eloquently, the law states that it is the continuing policy of the Federal government, in conjunction with state and local governments: and I quote, *"....to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans."*

The law makes us stewards of our environment and admonishes us to, *"attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences."* It is this latter issue -- the issue of undesirable and unintended consequences – upon which I wish to focus my remarks today. In a twist of irony, 40 years after the passage of NEPA, it is the FAA's well-intentioned process for adhering to the law itself that has become the greatest obstacle to implementing new aviation technologies that promise the greatest improvements to our environment. And it is to address this unfortunate, and unforeseen circumstance, that we seek your leadership and your help.

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We have arrived at a critical moment in aviation history. Within our grasp are new technologies -- many of them developed by supremely talented and committed Americans -- that can significantly reduce the impact of aviation on our environment. Let's be crystal clear. I'm talking about technologies and procedures that will significantly reduce aviation CO_2 and other emissions, that will significantly reduce fossil fuel consumption, that will significantly reduce the impact of aircraft noise on our communities as a whole. I'm talking about precisely the kinds of technologies that Congress and the President hoped to encourage when they passed and signed NEPA into law.

One of these technologies is Required Navigation Performance. RNP makes it possible to harness GPS and the advanced flight management systems on today's aircraft, to create extremely precise, predictable aircraft paths. These paths can be carefully designed and deployed to achieve a myriad of environmentally desirable objectives.

- RNP can be used to enable optimized descents that require minimum engine thrust and fuel burn as airplanes descends from cruise altitude to landing -- reducing engine noise along the way.

- RNP can reduce the track miles an aircraft has to fly between a specific city pair, reducing fuel burn, emissions and time enroute.

- RNP can ease congestion and improve safety by providing controllers with the precision and predictability they need to more efficiently manage air traffic.

- And RNP can ease the impact of aircraft noise by providing the flexibility to tailor aircraft paths in ways that makes sense for the community and that aren't restricted to fixed, land-based navigation aids.

According to the FAA, the full implementation of NextGen could reduce greenhouse gas emissions from aircraft by up to 12 percent by 2025. This reduction in CO_2 production is roughly equivalent to taking 2.2 million cars off the road for one year. ICAO, the International Civil Aviation Organization, has predicted that efficiencies made possible by just RNP can cut global CO_2 emissions by 13 million metric tons per year. [1] And studies show that here in the U.S., at our 10 busiest airports alone, RNP could cut aviation CO_2 emission by 2 million metric tons a year. [2] These benefits are well understood, well documented, and, as I speak, are being acted upon by airlines and countries around the world.

Based in part on the environmental benefits that will come from NextGen, U.S. airlines have committed to improving fuel efficiency an additional 1.5 percent annually through 2020, and to neutralizing the growth of aviation emissions from 2020.

At GE Aviation Systems, we manufacture RNP capable flight management computers and cockpit displays that are used in thousands of aircraft worldwide. Naverus, a part of GE Aviation, is a global leader in the design and deployment of PBN procedures, and has helped airlines both here and abroad, to transition their fleets, training programs and operating procedures to take advantage of RNP.

Today, in Australia, we are helping Airservices Australia, develop and deploy a nationwide RNP network that will reduce CO_2, improve airspace efficiency and help control community noise. And in Canada, we designed, and currently maintain, a network of RNP arrival procedures for WestJet that is saving fuel, cutting emissions, reducing track miles and time enroute. Here in the United States, we are helping Southwest Airlines equip its fleet, train its pilots and make other operational changes that will enable them to fly RNP paths -- all of this enabled by RNP capable GE Aviation Flight Management Systems.

At GE, we can develop and deploy RNP paths that make a difference: reducing emissions – reducing fuel burn – reducing time in the air – reducing noise. Those things are good for airlines, and good for the communities where they fly. With fuel being the largest cost driver for airlines, reducing fuel burn does not only benefit the environment, it reduces costs; which helps airlines retain more jobs and be more competitive.

So, you might ask, what's the problem?

Well, the problem clearly is not the technology. It's proven. It works. And, as I've described, it's creating benefits around the world.

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[1] Meeting Aviation Challenges Through Performance-based Navigation, ICAN/IATA

[2] Energy and Environmental Benefits, New Procedures Significantly Reduce Noise and Emissions, Honeywell

But, in the U.S., bureaucracy and red tape stand in the way of achieving environmental benefit. And, strangely enough, it's the bureaucracy and red tape surrounding the administration of NEPA that is causing the problem. While it's clear that FAA understands the environmental benefits that RNP can provide, current application of the environmental review process at FAA makes it practically impossible to implement meaningful change – - even if that change improves the quality of the environment. While this may sound absurd, it's easy to see how this situation came to be.

FAA, like any government agency, must comply with NEPA requirements to review all "major federal actions significantly affecting the quality of the human environment."[3] More often than not, the FAA interprets this general and sensible statutory NEPA requirement as requiring the FAA to subject navigational procedure changes to some level of NEPA review, even in those cases where the navigational change will clearly result in environmental improvement.

By its very definition, improving a navigation path requires a change in that navigation path, and the change itself triggers an untenable set of regulatory circumstances that can derail environmental improvement. Currently, the environmental review process can last many years, and cost hundreds of thousands, or even millions of dollars -- even if the change clearly results in environmental improvement.

To further complicate matters, the environmental review process doesn't begin until the new navigation path is already designed and in some cases, approved. In short, the manner in which FAA orders and administers environmental reviews, is so cumbersome, so unclear, and so unwieldy, that it makes any significant navigational change impractical, even when that change positively impacts the environment. This is a problem of significant magnitude that threatens NextGen itself.

In order to derive maximum environmental and operational benefits' at the top 100 U.S. airports, we estimate that at least 1,200, new navigational procedures would need to be designed and deployed. If each of those new paths were required to undergo the environmental review process I've described above, even if you started the review process tomorrow, it could take a decade or more to complete. In some instances, the cost of the review could outweigh the economic benefit. And, It's possible in some instances, the navigation procedure itself would be obsolete by the time the review was completed.

I want to make one thing clear. The problem I'm describing today does not just effect GE or other qualified third party navigation designers. FAA's internal efforts to design and deploy new, environmentally beneficial navigation procedures also are impinged. That's one explanation why FAA's efforts to deploy RNP have, so far, consisted mainly of designing overlays, or replicas, of previously existing instrument procedures.

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[3] 42 U.S.C. § 4332(2)(C).

Overlays, don't change the aircraft path, and thus, don't trigger the environmental review process. However, obviously, if we limit ourselves to replicating the system we currently have, we'll never make any progress at all. Airlines, the travelling public and the communities around major U.S. airports could be benefitting right away from new RNP navigation procedures. And FAA's NextGen initiatives are, at many of these airports, dependent on these procedures. RTCA and the airlines themselves have said that, in order to succeed, and to get airlines to invest, NextGen must begin to generate benefits in the short term.

For all of these reasons, it's absolutely imperative that we find a way to help FAA streamline its environmental review process for navigation procedures that can help the environment. It's a perverse twist that these navigation procedures, their associated environmental dividends, and the success of the NextGen program itself, are threatened by the very regulations intended to protect the environment. We must find a way to expedite environmental approval for navigation procedures that provide clearly defined environmental benefits based on clearly defined metrics.

Without this needed reform, one of NextGen's most promising near-term technologies will be brought to a standstill -- and the entire NextGen program, and all that has been invested in it, placed at risk.

There is some good news!

It is not difficult to identify in advance those RNP flight paths that provide environmental benefits. The environmental characteristics of a proposed navigation procedure can be easily calculated and quantified. It's a simple matter to compare those results to the characteristics of the procedure being replaced.

A simple, three-part test would unlock the regulatory shackles that are binding NextGen and would provide access to environmental benefits that are in keeping with Congress's intent when it passed NEPA 40 years ago.

A new, expedited approval process should apply to any navigation procedure that:

1. Reduces an aircraft's CO_2 emissions and,
2. Reduces its fuel burn and
3. Results in a reduction or no net increase in the noise-affected area on the ground.

Procedures meeting these criteria should be subject to streamlined approval under revised NEPA implementing regulations, and/or revised FAA policies and procedures. These revised agency procedures and policies would make such beneficial changes clearly subject to the FAA's categorical exclusion policy, and conclusively establish that such improvements do not fall within any procedural exceptions to a categorical exclusion.

Congress has the opportunity to take action now, to require FAA to develop this expedited environmental review and approval process, as it conferences the FAA Reauthorization bill. Section

314 of the Senate bill calls for expedited environmental review of RNP procedures. We support the concept but believe that further language is required.

I appear before you today as the representative of a major U.S. company that is making a concerted effort to solve some of the world's most difficult environmental problems. Our Ecomagination initiative is focused on building a prosperous, cleaner economy where job creation and energy security are highlighted. GE is committed to finding environmental solutions for aviation that make sense for airlines and for the communities they serve. But we can't do this alone. To succeed…. For NextGen to succeed…. For our country to make meaningful environmental progress in the field of aviation, we need this committee's leadership, and this Congress's commitment to solve the problem I've just described.

We look forward to working with members of this committee, with other members of Congress, with the FAA and with the White House Council on Environmental Quality and other interested stakeholders to accelerate the delivery of environmental benefits in our National Airspace and to preserve the investment we've made in NextGen.

Thank you for this opportunity to address our concerns. I would be happy to take your questions.